

ABSTRACT OF THE DISCLOSURE

A mass spectrometer is disclosed comprising a mass filter for separating ions according to their mass to charge ratio. The mass filter comprises a plurality of electrodes wherein ions are radially confined within the mass filter by the application of AC or RF voltages to the electrodes. One or more transient DC voltages or one or more transient DC voltage waveforms are progressively applied to the electrodes so that ions having a certain mass to charge ratio are separated from other ions having different mass to charge ratios which remain radially confined within the mass filter.